

What is claimed as new and what is desired to secure by Letters Patent of the United States is:

1. A gimbal assembly for a water vehicle outdrive system, said assembly
5 comprising:

control means for generating a user input and directing the outdrive system to rotate freely in a select radial path so that the water vehicle can be propelled in a corresponding direction;

a gimbal section operably connected to said control means and for
10 cooperating therewith to selectively position the outdrive system corresponding to said user input; and

support means for assisting to maintain said gimbal section at a substantially stable position during operating conditions, said support means being secured to a water vehicle transom and said gimbal section respectively, said support means
15 being selectively operable independently of said control means.

2. The gimbal assembly of claim 1, wherein said gimbal section comprises: an upper housing secured to a water vehicle transom and extending rearwardly therefrom, said upper housing comprising

20 a plurality of shafts and a beveled gear connected thereto and for transferring a first linear motion of one said plurality of shafts to a second linear motion of another said plurality of shafts wherein the first linear motion is disposed substantially orthogonal to the second linear motion.

25 3. The gimbal assembly of claim 2, wherein said gimbal section further comprises:

a universal joint connected to said another shaft with said gimbal assembly for transmitting a non-linear rotation thereof so that the outdrive system can be rotated in clockwise and counter-clockwise directions.

30

4. The gimbal assembly of claim 1, wherein said gimbal section further comprises:

a steering gear operably connected to said control means and for cooperating therewith to direct the water vehicle outdrive between select positions.

5

5. The gimbal assembly of claim 1, wherein said support means comprises:

a bracket including a plurality of elongated members secured along the boat transom and engageable with said gimbal section, said plurality of members being spaced along the boat transom and converging rearwardly toward the outdrive system.

10

6. The gimbal assembly of claim 1, wherein said support means further comprises:

a plurality of hydraulic pumps and a plurality of hydraulic cylinders operably connected thereto, said plurality of hydraulic cylinders being connected to said gimbal section and for selectively pivoting the outdrive system between raised and lowered positions as said plurality of hydraulic cylinders are extended and retracted respectively.

15

7. The marine gimbal assembly of claim 1, wherein the radial path extends at least 180 degrees and about a plurality of quadrants.

20

8. A gimbal assembly for a water vehicle outdrive system, said assembly comprising:

control means for generating a user input and directing the outdrive system to rotate freely in a select radial path extending at least 90 degrees and about a quadrant so that the water vehicle can be propelled in a corresponding direction; a gimbal section operably connected to said control means and for cooperating therewith to selectively position the outdrive system corresponding to said user input; and

25

30

support means for assisting to maintain said gimbal section at a substantially stable position during operating conditions, said support means being secured to a water vehicle transom and said gimbal section respectively, said support means being selectively operable independently of said control means.

5

9. The gimbal assembly of claim 8, wherein said gimbal section comprises: an upper housing secured to a water vehicle transom and extending rearwardly therefrom, said upper housing comprising

10 a plurality of shafts and a beveled gear connected thereto and for transferring a first linear motion of one said plurality of shafts to a second linear motion of another said plurality of shafts wherein the first linear motion is disposed substantially orthogonal to the second linear motion.

15 10. The gimbal assembly of claim 9, wherein said gimbal section further comprises:

a universal joint connected to said another shaft with said gimbal assembly transmitting a non-linear rotation thereof so that the outdrive system can be rotated in clockwise and counter-clockwise directions.

20 11. The gimbal assembly of claim 8, wherein said gimbal section further comprises:

a steering gear operably connected to said control means and for cooperating therewith to direct the water vehicle outdrive between select positions.

25 12. The gimbal assembly of claim 8, wherein said support means comprises:

30 a bracket including a plurality of elongated members secured along the boat transom and engageable with said gimbal section, said plurality of members being spaced along the boat transom and converging rearwardly toward the outdrive system.

13. The gimbal assembly of claim 8, wherein said support means further comprises:

5 a plurality of hydraulic pumps and a plurality of hydraulic cylinders operably connected thereto, said plurality of hydraulic cylinders being connected to said gimbal section and for selectively pivoting the outdrive system between raised and lowered positions as said plurality of hydraulic cylinders are extended and retracted respectively.

10 14. A gimbal assembly for a water vehicle outdrive system, said assembly comprising:

control means for generating a user input and directing the outdrive system to rotate freely in a select radial path so that the water vehicle can be propelled in a corresponding direction;

15 a gimbal section operably connected to said control means and for cooperating therewith to selectively position the outdrive system corresponding to said user input, said gimbal section comprising

a universal joint connected to said another shaft with said gimbal assembly transmitting a non-linear rotation thereof so that the outdrive system can be rotated in clockwise and counter-clockwise directions; and

20 support means for assisting to maintain said gimbal section at a substantially stable position during operating conditions, said support means being secured to a water vehicle transom and said gimbal section respectively, said support means being selectively operable independently of said control means.

25 15. The gimbal assembly of claim 14, wherein said gimbal section comprises:

an upper housing secured to a water vehicle transom and extending rearwardly therefrom, said upper housing comprising

30 a plurality of shafts and a beveled gear connected thereto and for transferring a first linear motion of one said plurality of shafts to a second

linear motion of another said plurality of shafts wherein the first linear motion is disposed substantially orthogonal to the second linear motion.

16. The gimbal assembly of claim 14, wherein said gimbal section further
5 comprises:

a steering gear operably connected to said control means and for cooperating therewith to direct the water vehicle outdrive between select positions.

17. The gimbal assembly of claim 14, wherein said support means
10 comprises:

a bracket including a plurality of elongated members secured along the boat transom and engageable with said gimbal section, said plurality of members being spaced along the boat transom and converging rearwardly toward the outdrive system.

15

18. The gimbal assembly of claim 14, wherein said support means further comprises:

a plurality of hydraulic pumps and a plurality of hydraulic cylinders operably connected thereto, said plurality of hydraulic cylinders being connected to said
20 gimbal section and for selectively pivoting the outdrive system between raised and lowered positions as said plurality of hydraulic cylinders are extended and retracted respectively.